



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/517,126	03/08/2006	Gerd Schmaucks	E-1048	2783
20311	7590	10/15/2008	EXAMINER	
LUCAS & MERCANTI, LLP			LACLAIR, DARCY D	
475 PARK AVENUE SOUTH			ART UNIT	PAPER NUMBER
15TH FLOOR			1796	
NEW YORK, NY 10016			MAIL DATE	DELIVERY MODE
			10/15/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/517,126	Applicant(s) SCHMAUCKS, GERD
	Examiner Darcy D. LaClair	Art Unit 1796

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If no period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 7/29/08.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1-8 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date: _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date: _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. All outstanding rejections, except for those maintained below are withdrawn in light of the amendment filed on 7/29/2008.

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

The new grounds of rejection set forth below are necessitated by applicant's amendment filed on 7/29/2008. In particular, **Claim 1** has been amended to further define the "high filler content" to be "of 15% to 500% by weight of the resin." Thus, the following action is properly made **FINAL**.

Claim Objections

2. **Claims 1 and 4** are objected to because of the following informalities: The claims recite "a filler having a high filler content." This is meaningless and appears to be an error in revision of the claims. Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. **Claims 1, 4, and 7-8** are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Specifically, the specification teaches that

highly filled resins can vary from about 15 to about 500% by weight of resin. Applicant claims exactly 15% to exactly 500% by weight.

Double Patenting

4. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

5. Applicant's statement on **page 10** of the amendment filed **7/29/08** regarding the provisional obviousness-type double patenting rejections is acknowledged. If the following double-patenting rejection is the only rejection remaining in this application and if there is a provisional obviousness-type double patenting rejection in the later-filed copending application, per USPTO practice, the examiner will withdraw the rejection.

Claims 1 - 8 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over **claims 1-8** of copending **Application No. 11/718,590**. Although the conflicting claims are not identical, they are

not patentably distinct from each other because they teach substantially overlapping compositions.

Claim 1 of the instant application requires a highly filled elastomeric composition having a filler content of 15% to 500% by weight and further 1 to 400% by weight of microsilica. **Claim 1 and 6 of the copending application** require an engineering plastic having 20 to 50% of glass fibre, consistent with the instant high filler content, and 5-60% of microsilica, which is within the compositional range of the instant application. In the specification of the copending application, applicant defines engineering plastic:

Engineering plastic are thermoplastics which have mechanical, chemical and thermal properties, maintain dimensional stability, and are suitable for conditions under high impact, heat or moisture. They include acetals, polycarbonates (PC), polyphenylsulfides, polysulfones, modified polyphenylene oxides, polyimides, polyamides (PA), polybutylene terephthalate (PBT), acrylonitrile-butadiene-styrene (ABS), liquid crystal polymers (LCP), ethylene vinylacetate copolymer (EVA) and other plastics used for engineering purposes.

Acrylonitrile-butadiene-styrene (ABS), which contains an elastomeric butadiene portion, and ethylene vinyl acetate copolymer (**EVA**), which approaches the softness and flexibility of elastomeric materials, are engineering plastics which have an elastomeric component. Furthermore, in the specification of the instant application, applicant clarifies the definition of the elastomeric compounds:

The elastomeric compounds according to the invention includes compounds based on elastomers like natural rubber (NR), ethylene-propylene-diene rubber (EPM and EPDM), styrene-butadiene rubber (SBR), acrylonitrile-butadiene rubber (NBR), polychloroprene rubber (PCP), speciality polymers like acrylate rubber and ethylene vinyl acetate copolymer and others and blends thereof and also compounds based on blends of elastomers with thermoplastics, so-called thermoplastic elastomers, and to a method for the production of those polymer compositions.

The term elastomer includes not only traditional elastomeric materials like natural rubber or synthetic rubber-like polymers but also blends thereof and thermoplastic elastomers.

Ethylene vinyl acetate (**EVA**) copolymer, which is taught in both specifications, as well as thermoplastic elastomers fall within applicant's definition. The copending claims are encompassed by the instant claims. Note MPEP 804: "Further, those portions of the specification which provide support for the patent claims may also be examined and considered when addressing the issue of whether a claim in the application defines an obvious variation of an invention claimed in the patent. In re Vogel, 422 F.2d 438, 441-42, 164 USPQ 619, 622 (CCPA 1970)."

Claims 2 and 3 of the instant application require the microsilica in 5 to 300% and 10 to 150%, respectively. **Claim 1 and 3 of the copending application** teach 5 – 60% and 8 – 50% of microsilica, which is within the range claimed by the instant application.

Claim 4 of the instant application requires a method for production of a highly filled composition, with 15% to 500% of a filler, and 1 to 400% of microsilica. **Claims 5 and 7 of the copending application** require a method for improving processability by

adding 5-60% or 8-50% by weight of microsilica, respectively, to a composition containing 20 to 50% of glass fibre.

Claim 5 and 6 of the instant application require the microsilica in 5 to 300% and 10 to 150%, respectively. **Claims 5 and 7** require ranges which anticipate this range.

Claim 7 of the instant application requires a method of using microsilica as a modifier to improve processability. **Claim 5 of the copending application** requires a method for improving processability by adding microsilica.

Claim 8 of the instant application requires a method of increasing the limiting oxygen index (or improving flame retardance) using a combination of microsilica and adding aluminum trihydrate or magnesium hydroxide. Aluminum trihydrate and/or magnesium hydroxide function in the role of additional flame retardants. In the **copending application**, **Claim 5 and 6** require using silica for improving flame retardancy, and **Claim 8** requires the method of **claim 5** further adding a flame retardant additive. This is generic to the aluminum trihydrate or magnesium hydroxide of the instant application.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claim Rejections - 35 USC § 102

6. **Claims 1-3** are rejected under 35 U.S.C. 102(a) as being anticipated by **Mitsuhashi et al. (JP 09012888 A)**

In setting forth this rejection, in the absence of a full English-Language translation of **JP 09012888 A**, a machine translation has been relied upon.

With respect to amended **Claim 1**, which now requires a highly filled elastomeric composition having a filler content of 15% to 500% by weight and 1 to 400% by weight of microsilica, Mitsuhashi teaches a silicone rubber composition. Silicone rubber constitutes an elastomeric compound. This compound contains 50- 100 weight sections of mica, 10-50 weight sections of crystallite, 1 – 80 weight sections of aluminum hydroxide, and 6 – 80 weight sections of magnesium hydroxide. This constitutes from 67 to 310 weight sections of filler. Additionally the composition contains 10 – 100 weight sections of silica powder, (see par [0004]) which is mist silica (fumed silica), hydrophobic silica, wet process silica, and quartz powder which is less than 50 micrometers. (see [0006]) Fumed silica is consistent with microsilica. Misuhashi teaches that an effect of the invention is easy workability. (see par [0016])

With respect to amended **Claims 2-3**, which require 5 to 300% and 10 to 150% by weight of microsilica, respectively, Mitsuhashi teaches the composition contains 10 – 100 weight sections of silica powder. (see par [0004])

Claim Rejections - 35 USC § 103

7. **Claims 4-8** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Mitsuhashi et al.**

The discussion with respect to **Mitsuhashi**, above in **paragraph 5**, is incorporated here by reference.

With respect to amended **Claim 4**, Mitsuhashi teaches that the silicone rubber composition of the invention can be easily obtained by mixing the specified quantity of the components of the invention. It would be obvious to mix first the rubber and fillers, followed by the silica. Ex parte Rubin , 128 USPQ 440 (Bd. App. 1959) (Prior art reference disclosing a process of making a laminated sheet wherein a base sheet is first coated with a metallic film and thereafter impregnated with a thermosetting material was held to render *prima facie* obvious claims directed to a process of making a laminated sheet by reversing the order of the prior art process steps.). See also In re Burhans, 154 F.2d 690, 69 USPQ 330 (CCPA 1946) (selection of any order of performing process steps is *prima facie* obvious in the absence of new or unexpected results); In re Gibson, 39 F.2d 975, 5 USPQ 230 (CCPA 1930) (Selection of any order of mixing ingredients is *prima facie* obvious.).

With respect to amended **Claims 5-6**, which require 5 to 300% and 10 to 150% by weight of microsilica, respectively, Mitsuhashi teaches the composition contains 10 – 100 weight sections of silica powder. (see par [0004])

With respect to amended **claim 7**, now requiring a filler content of 15% to 500% and a step of adding 1 to 400% of microsilica to the composition, Mitsuhashi discloses silica, and further indicates that one effect of the invention is easy workability. (see par [0016]) With respect to the order in which silica is added, see the discussion above with reference to **Claim 4**. The presence of the microsilica would improve the processability in an elastomeric or rubber composition, inherently. Mitsuhashi utilizes the step of

adding microsilica and obtains a result which is ease of workability. This meets the limitations of applicant's claim.

With respect to amended **Claim 8**, now requiring a filler content of 15% to 500% and a step of adding 1 to 400% of microsilica to the composition, in addition to the silica,

Mitsuhashi discloses aluminum hydroxide and magnesium hydroxide. With respect to the order in which the fillers are added, see the discussion above with reference to

Claim 4. Aluminum hydroxide and aluminum trihydrate are both names for the same chemical structure, Al(OH)_3 . Mitsuhashi describes in detail the effect of these hydroxides, which are to discharge water at high temperatures. (see par [0007]) This creates a barrier and increases the limiting oxygen index of the material, which is measured in the exemplified compounds (see par [0017]) and appears to be improved at a filler level of a total of 50 parts by weight of aluminum and magnesium for the inventive examples. (See Table 1, 4th line from bottom) A second disclosed effect of the invention is fire resistance/fire retardancy. Mitsuhashi combines silica, aluminum hydroxide, and magnesium hydroxide and obtains a composition with improved flame retardance and limiting oxygen index.

Response to Arguments

8. Applicant's arguments filed **7/29/08** have been fully considered. Specifically, applicant argues (A) the amended claim are patentably distinguishable over the cited application 11/718590, and should be held in abeyance until the case is ready for allowance, (B) Columbian Carbon Company does not relate to a resin with an already

high filler content, and that this art additionally teaches an acidic colloidal silica which is different from the substantially spherical microsilica of the invention, in addition to having a much smaller particle size (applicant teaches a specific surface area of 15-40 m²/g in the specification, and Columbian teaches 100 m²/g) (C) Danielssen does not teach highly loaded elastomeric compositions with the purpose of the silica being to improve processability, but rather teaches a thermoplastic resin composition which has high stiffness and impact strength and therefore presents a different technical problem, and does not contain a high filler content, because the basic material is not filler at all, (D) Underwood does not provide teachings which anticipate applicant's claims because vulcanized rubbers are placed outside the class of thermoplastic materials, and furthermore does not provide examples containing high filler content in addition to microsilica, and (E) Wypych does not remedy the deficiencies of Underwood with respect to high filler loading.

With respect to argument (A) applicant's arguments have been considered and are ***not persuasive***. The reasons thereof are set forth in the obviousness type double patenting rejection, above in **paragraph 4**. The grounds of the double patenting rejection have been changed to provisional non-statutory obviousness-type double patenting, and **claim 7** is now included.

With respect to argument (B), (C), (D), and (E), applicant's remarks have been considered. The rejections are ***withdrawn in light of applicant's amendments***.

Conclusion

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Forry et al. (US 5,276,082), which teaches an elastomeric composition and indicates that alumina trihydrate or fumed silica can be used to modify processing characteristics and to provide additional flame resistance. (col 8 line 40-43)

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Darcy D. LaClair whose telephone number is (571)270-5462. The examiner can normally be reached on Monday-Thursday 7:30-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan can be reached on 571-272-1119. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Darcy D. LaClair
Examiner
Art Unit 1796

/DDL/

/Vasu Jagannathan/
Supervisory Patent Examiner, Art Unit 1796